

REMARKS

Claims 2, 4, and 6 have been amended. Claims 9-11 have been cancelled. Claims 1-8 and 12-13 are all the claims pending in the application.

Formalities

Applicant thanks the Examiner for considering claims 2, 4, 6, and 8-10 as still pending in the application. Applicant inadvertently omitted these claims from the preliminary amendment filed on October 30, 2003.

Applicant has amended claims 2, 4, and 6 to better conform with United States patent claim practice and not for any substantive reason related to patentability. Applicant respectfully requests the Examiner to enter these amendments into the record.

Applicant thanks the Examiner for acknowledgment and consideration of the information disclosure statement filed October 30, 2003.

Claim rejections -- 35 U.S.C. § 101 Double Patenting

The Examiner rejected claims 9-11 under 35 U.S.C. § 101 for statutory double patenting. Applicant has cancelled claims 9-11. Thus, Applicant respectfully requests that the Examiner withdraw the rejection.

Claim rejections -- 35 U.S.C. § 103

Knox

The Examiner rejected claims 1 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Knox. The Examiner suggests that the limitation “any one of two functions effected by certain keys on a keyboard” is met by Knox at col. 11, lines 21-31 and Fig. 3, #90. Applicant respectfully disagrees.

At col. 11, lines 21-31, Knox teaches a keyboard whereby the user may lift the fingers slightly above the keyboard to activate an optical digitizer and thereafter, by using one finger to obstruct a light grid, communicate positional information, select an object, etc. The user may then deactivate the digitizer, thereby allowing the user to type normally on the keyboard again. Knox goes on to vaguely describe an alternative embodiment whereby firmware could be used to activate and deactivate the digitizer. When multiple finger obstructions are detected by the digitizer, the firmware would assume the user wished to be in typing mode. When the digitizer detects a single finger, the firmware would assume the user wished to be in positional mode.

By contrast, the present development includes the limitation language: two functions effected by certain keys on the keyboard. This limitation language is not taught or otherwise suggested by Knox. While Knox does disclose two functions, namely a normal typing mode and a positional mode, Knox does not teach that these functions are *effected by certain keys* on the keyboard.

The Examiner argues that “certain keys” is taught by Fig. 3, #90 of Knox. Knox at Fig. 3, #90 does indeed show keys in various positions on a keyboard. However, Knox provides no indication of the functionality of these keys (they are blank in the figure). Moreover, in the description, Knox only discusses #90 of Fig. 3 in terms of 1) spacing between “the keys” and the beam (col. 11, lines 7-16) and 2) replacing “the keys” with a flat adapter plate to create a keyboard “without keys” (col. 11, lines 43-55). While Knox does disclose keys in this very general way (i.e. keys on a keyboard), Knox does not teach one of two functions that are “effected by” certain keys on the keyboard, as claimed in claim 1.

It is true that the exact position of the multiple fingers in Knox’s reference is located on the keyboard where the keys are located. In this manner, the operation of Knox is similar to a mouse or touch pad. Once the digitizer is activated, the user may move his hands around on top of the area where the keys are located much in the same way that a mouse is moved to move a pointer around a screen. In effect, the user’s hands operate like the mouse housing. However, the keys are not causing the mouse pointer to move around the screen; rather the user’s hands are causing the movement. Thus, the keys are not carrying out the function, but rather the hands are.

Thus, Knox does not teach the limitation “two functions effected by certain keys” as described and claimed in claim 1, and Applicant respectfully requests the Examiner to withdraw the rejection.

Regarding claim 12, the Examiner suggests the claim limitation “selecting a function of a certain key” based on detection by a sensor is met by Knox at col. 11, lines 21-31 and Fig. 3, #90. Applicant respectfully disagrees.

As noted above, Knox does teach a typing mode and a position mode. However, Knox teaches switching between these two modes based on detection of multiple fingers or a single finger. Knox does not show selecting a function based upon detecting the presence (or absence) of a user’s hands using a sensor. This feature, as described and claimed in claim 12, is not present in Knox. As such, Applicant respectfully requests that the Examiner withdraw the rejection.

Knox in view of Hiller

The Examiner rejected claims 2 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Knox in view of Hiller.

As in initial matter, there is no motivation to combine the teachings of Knox and Hiller. As discussed above, Knox teaches a digitizer which allows the keyboard to be used in both a typing mode and a positional mode. In essence, Knox teaches using the QWERTY keyboard area as a mouse-like pad. Thus, by using the digitizer, a user can both type and move a mouse around the screen by virtue of moving the user’s hands on top of the QWERTY portion of the keyboard. The user’s hands become like the mouse housing and the mouse pointer tracks with the movement of the user’s hands. The whole point of Knox is thus to increase efficiency in

using the keyboard by keeping the user's hands on the keyboard at all times, rather than having to move a hand away from the QWERTY keys to operate a mouse, trackball, etc.

In contrast, Hiller teaches a keyboard device where the numeric keypad area has been converted into a flat, touch-sensitive, virtual numeric-keypad/mouse. The virtual numeric keypad displays images of numbers, whereby a user may press the correct image to input numbers. Alternatively, the user may touch a finger to the pad and, by moving the finger, control the position of the mouse on the screen. Hiller thus requires a user to move his hands *away from* the QWERTY keyboard in order to operate the virtual pad. This teaching teaches away from the teachings of Knox. One skilled in the art would not look to Hiller to address the problem faced by Knox -- mainly to provide a more efficient keyboard whereby the user *does not need to remove his hands* from the keyboard.

Even if Knox and Hiller may be combined, they do not teach the claimed limitation. Knox fails to teach "two functions effected by certain keys on a keyboard", as described and claimed in claim 2 for the reasons discussed above. Moreover, Hiller fails to remedy the deficiency of Knox. Hiller teaches a virtual keypad/mouse that may operate in a keypad mode or a mouse mode by virtue of the user touching the keypad. Hiller does not teach or suggest keys on a keyboard, much less functions effected by certain keys. The virtual pad is instead an LCD panel in conjunction with a commercially available touchpad (see col. 2, lines 61-64).

There is not one of the two applied references that teaches or suggests using a sensor to select any one of two functions affected by certain keys on a keyboard. Even taken together, for

what they would have meant as a whole to the person of ordinary skill, Applicant finds in the combined teachings no suggestion that could reasonably be interpreted as teaching the above-identified requirement of claim 2. As such, claim 2 is patentably distinguished over Knox in view of Hiller, and Applicant respectfully requests the Examiner to withdraw the rejection.

Regarding claim 13, as discussed above, Knox does not show selecting a function based upon detecting the presence of a user's hands using a sensor. Moreover, Hiller fails to remedy the failings of Knox for substantially similar reasons as noted above. Therefore, claim 13 is patentably distinguished over Knox in view of Hiller, and Applicant respectfully requests the Examiner withdraw the rejection.

Sellers in view of Knox

The Examiner rejected claims 3 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Sellers in view of Knox. The Examiner suggests that the limitation "any one of two functions effected by certain keys on a keyboard" is met by Sellers at col. 5, lines 57-59 and Fig. 1, #29. Applicant respectfully disagrees.

At col. 5, lines 57-59, Seller teaches switchable typing and cursor control modes. These teachings are similar to, but more limited than, the teachings of Knox at col. 11, lines 21-31. In addition, Sellers teaches keys in various positions on a keyboard, as shown in Fig. 1 at #29. This teaching is essentially the same as in Knox, discussed above. What the teachings of Sellers and Knox, either taken separately or taken in combination, fail to teach is that these functions are "effected by" the certain keys, as described and claimed in claim 3 and 5. As such, claims 3 and

5 are patentably distinguished from Sellers and Knox, and Applicant respectfully requests that the Examiner withdraw the rejection.

Hiller in view of Knox

The Examiner rejected claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Hiller in view of Knox. The Examiner suggests that the claim limitation of a control section “for disabling the input of the second group of keys” is met by Hiller by virtue of the teachings at col. 2, lines 51-54 and col. 3, lines 19-22. Applicant respectfully disagrees.

At col. 2, lines 51-54, Hiller teaches an I/O controller that includes circuitry to enable the virtual keypad to act in one mode as a virtual numeric keypad and in another as a mouse. Thus, Hiller teaches switching between two modes -- virtual keypad and mouse. The Examiner will appreciate that in Hiller the virtual pad is always on. Hiller thus fails to suggest a control section that as a result of a sensor *disables* an input of a second group of keys.

Knox does not remedy the deficiency of Hiller. As described above, Knox teaches a keyboard with a digitizer that allows switching between typing mode and positional mode. Knox does not teach using its sensor to *disable* a group of keys. Rather the keys are always providing input.

There is not one of the two applied references that teaches or suggests disabling a second group of keys by the results of a sensor. Even taken together, for what they would have meant as a whole to the person of ordinary skill, Applicant finds in the combined teachings no suggestion that could reasonably be interpreted as teaching the above-identified requirement of claims 7 and

8. As such, claims 7 and 8 are patentably distinguished over Hiller in view of Knox, and Applicant respectfully requests the Examiner to withdraw the rejection.

Sellers and Knox in view of Hiller

The Examiner rejected claims 4 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Sellers in view of Knox in further view of Hiller. Applicant respectfully disagrees.

Claims 4 and 6 depend from claims 3 and 5, respectively. Therefore, claims 4 and 6 are patentably distinguished over Sellers in view of Knox for substantially the same reasons as discussed above regarding claims 3 and 5. Moreover, as discussed above, there is no motivation to combine the teachings of Knox with those of Hiller. One skilled in the art would not look to Hiller to address the problems addressed by Knox.

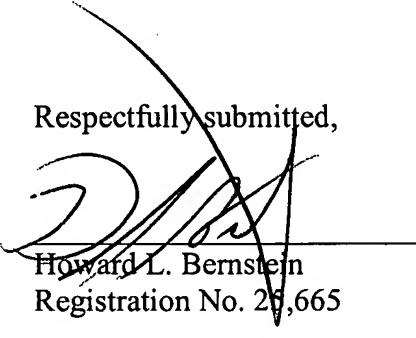
For at least these reasons, claims 4 and 6 are patentably distinguished over Sellers in view of Knox in further view of Hiller. Therefore, Applicant respectfully requests the Examiner to withdraw the rejections.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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